

WE CLAIM:

1. A network distributed tracking wire transfer protocol comprising:
  - a variable length identification string, the identification string for specifying the identity of an entity in a distributed data collection; and
  - 5 a variable length location string, the location string for specifying the network location of data associated with an entity in a distributed data collection;
  - 10 wherein a relationship between the identification string and the location string can be spontaneously and dynamically created and modified.
- 15 2. The network distributed tracking wire transfer protocol defined in claim 1, wherein the protocol is application independent.
3. The network distributed tracking wire transfer protocol defined in claim 1, wherein the protocol is organizationally independent..
4. The network distributed tracking wire transfer protocol defined in claim 1, wherein the protocol is geographically independent.
- 15 5. A system having a network distributed tracking wire transfer protocol for storing and identifying data with a distributed data collection, comprising:
  - 20 a data repository, the data repository for storing data in a distributed data collection;
  - 25 a client entity, the client entity for manipulating data in the distributed data collection; and
  - 30 a first server entity, the first server entity operative to locate data in the distributed data collection;
  - 35 wherein the client entity transmits an identifier string to the first server entity along with a client request and the first server entity provides at least one location string to the client entity in response thereto.

6. The system defined in claim 5, further comprising a second server entity coupled to the first server entity.
7. The system defined in claim 5, wherein the first server entity maps the identifier string received from the client entity to the at least one location string.
8. The system defined in claim 7, wherein the mapping is performed using a hash operation.
9. The system defined in claim 6, wherein the first server entity transmits the client request to the second server entity if the first server entity cannot provide the at least one location string to the client entity.
10. The system defined in claim 9, wherein the second server entity maps the identifier string received from the first server entity to the at least one location string.
11. The system defined in claim 10, wherein the second server entity transmits the at least one location string to the first server entity for transmission to the client entity.
12. A method for storing and retrieving tracking information over a network using a wire transfer protocol, comprising the steps of:
  - providing a location string and an identification string, the location string for specifying the location of data associated with an entity in a distributed data collection and the identification string for specifying the identification of an entity in the distributed data collection;
  - storing information at a data repository entity by associating an identification string with each particular stored unit of information and by mapping the identification string to at least one location string associated with the data repository entity, the identification string and the at least one location

string for a particular unit of information being stored at a first server entity coupled to the data repository entity;

5 transmitting a request from a client entity to the first server entity to retrieve at least one location string associated with a particular stored unit of information, the request including the identification string associated with the particular stored unit of information; and

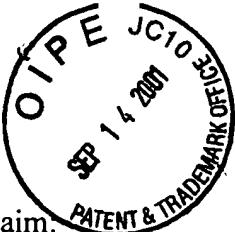
receiving the request at the first server entity and responding to the client entity by providing at least one location string associated with the particular stored unit of information to the client entity.

10 13. The method for storing and retrieving tracking information defined in claim 12, further comprising the step of transmitting the request to a second server entity prior to responding to the client entity, the second server entity coupled to the first server entity and having stored therewith the mapping of the identification string and the at least one location string for the particular unit of information.

15 14. The method for storing and retrieving tracking information defined in claim 13, wherein the second server entity responds to the client entity by providing the location string associated with the particular stored unit of information to the second client entity.

20 15. The method for storing and retrieving tracking information defined in claim 12, wherein the lengths of the identification string and the at least one location string are variable.

25 16. The method for storing and retrieving tracking information defined in claim 12, further comprising the step of spontaneously and dynamically manipulating the mapping of an identification string to a location string.



1 We claim.

2 1. A method for establishing and retrieving data based on global indices comprising:

3       establishing a unique device ID for each of a plurality of data generating devices on a

4       network;

5       registering the unique device ID of each of the plurality of data generating devices on the

6       network on at least one server connected to the network when the data generating equipment is

7       first used on the network;

8       establishing a unique user ID for each user of the data generating devices when the user

9       uses one of the plurality of data generating devices for the first time; and

10      retrieving data generated by the plurality of data generating devices by searching for

11      instances of the unique user ID.

12 2. The method for establishing and retrieving data based on global indices of claim 1

13      wherein establishing the unique user ID further comprises combining the device ID of the

14      data generating device being used by the user with a date/time stamp of the first use by

15      the user.

16 3. The method for establishing and retrieving data based on global indices of claim 2 further

17      comprising storing the unique user ID on a token given to the user.

18 4. The method for establishing and retrieving data based on global indices of claim 3 further

19      comprising the user using the token with the unique user ID for all subsequent uses of

20      any of the plurality of data generating devices.

21 5. The method for establishing and retrieving data based on global indices of claim 1

22      wherein the data generated is medical data concerning the user.

1       6. The method for establishing and retrieving data based on global indices of claim 1  
2               wherein the data generated is commercial data.

3       7. A system for establishing and retrieving data based on global indices comprising:  
4               a network;  
5               a plurality of servers connected to the network for storing data and responding to search  
6        requests;  
7               a plurality of data generating devices connected to the servers, wherein each data  
8        generating device has a unique ID that is registered with at least one server when the data  
9        generating device is first used of the network;  
10               unique user ID generator associated with each data generating device whereby a unique  
11        user ID is established by combining the unique device ID with a date time stamp of when the  
12        user first used any of the plurality of data generating devices on the network; and  
13               search logic for searching for instances of the unique user ID on any of the plurality of  
14        servers.

15       8. The system for establishing and retrieving data based on global indices of claim 7  
16               wherein the data generating devices are medical data generating devices.

17       9. The system for establishing and retrieving data based on global indices of claim 7 further  
18               comprising tokens generated by each of the plurality of data generating devices on which  
19        is stored each unique user ID.

20       10. The system for establishing and retrieving data based on global indices of claim 7  
21               wherein the data generated is commercial data.

22       11. The system for establishing and retrieving data based on global indices of claim 9

1           wherein each of the plurality of data generating devices further comprises a token reader  
2           for reading the unique user ID stored on the token of a user.

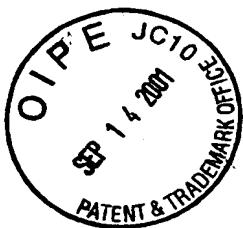
3       12. The system for establishing and retrieving data based on global indices of claim 7 further  
4           comprising data transport logic for transporting data generated from one data generating  
5           device to another once the location of the data has been determined by the search logic  
6           identifying instances of the unique user ID on any of the plurality of servers.

7       13. A method for establishing and retrieving data based on global indices comprising:  
8           establishing a unique device ID for each of a plurality of data generating devices on a  
9           network;

10           registering the unique device ID of each of the plurality of data generating devices on the  
11           network on at least one server connected to the network when the data generating equipment is  
12           first used on the network;

13           establishing a unique record ID for each record of the data generating devices when the  
14           record is created using one of the plurality of data generating devices for the first time; and  
15           retrieving data generated by the plurality of data generating devices by searching for  
16           instances of the unique record ID.

17       14. The method for establishing and retrieving data based on global indices of claim 13  
18           wherein the records creating is creating records of parts of an assembly.



I Claim:

1. A system for universal object tracking comprising:
  - an object forming apparatus;
  - a CPU integral to the image forming apparatus;
  - user input means connected to the CPU for receiving user input;
  - logic stored in the CPU for receiving user input and creating archive data based upon the user input; and
  - a graphic code producer responsive to the CPU for producing graphic codes representative of the archive data.
2. The system for universal object tracking of claim 1 wherein the object forming apparatus is taken from the group consisting of imaging forming apparatus, digital data forming apparatus, electronic data forming apparatus.
3. The system for universal object tracking of claim 1 wherein the object forming apparatus is a digital camera.
4. The system for universal object tracking of claim 1 wherein the object forming apparatus is a video camera.
5. The system for universal object tracking of claim 1 wherein the object forming apparatus is a digital image processor.
6. The system for universal object tracking of claim 1 wherein the object forming apparatus is a medical image sensor.

7. The system for universal object tracking of claim 6 wherein the medical image sensor is a magnetic resonance imager.
8. The system for universal object tracking of claim 6 wherein the medical image sensor is an X-ray imager.
9. The system for universal object tracking of claim 6 wherein the medical image sensor is a CAT scan imager.
10. The system for universal object tracking of claim 1 wherein the user input means is a push button input.
11. The system for universal object tracking of claim 1 wherein the user input means is a keyboard.
12. The system for universal object tracking of claim 1 wherein the user input means is voice recognition equipment.
13. The system for universal object tracking of claim 1 wherein the graphic codes are one-dimensional.
14. The system for universal object tracking of claim 1 wherein the graphic codes are two-dimensional.
15. The system for universal object tracking of claim 1 wherein the graphic codes are three-dimensional.
16. The system for universal object tracking of claim 1 wherein the logic comprises configuration input processing for determining bounds for the archive data generation based on configuration input;

a resolver for determining the correct value of archive data representing the image forming apparatus and the configuration input; and a timer for creating date/time stamps.

17. The system for universal object tracking of claim 16 wherein the timer further comprises a filter for processing the time stamp according to configuration input rules.
18. The system for universal object tracking of claim 16 wherein the configuration input comprises at least generation, sequence, data, unit, and constants information.
19. The system for universal object tracking of claim 1 further comprising a graphic code reader connected to the CPU for reading a graphic code on an image representing archive information; and  
A decoder for decoding the archive information represented by the graphic code.
20. The system for universal object tracking of claim 19 wherein the logic further comprises:  
logic for receiving a second user input and creating lineage archive information relating to the image based upon the archive information and the second user input;  
and  
logic for producing graphic code representative of the lineage archive data.
21. The system for universal object tracking of claim 1 wherein the archive data comprises location attributes of an image.
22. The system for universal object tracking of claim 1 wherein the archive data comprises physical attribute of an image.

23. The system for universal object tracking of claim 1 wherein each image in an image archive has unique archive data associated with each image.
24. The system for universal object tracking of claim 21 wherein the location data comprises at least:
  - image generation depth;
  - serial sequence of lot within an archive;
  - serial sequence of unit within a lot;
  - date location of a lot within an archive;
  - date location of an image within an archive;
  - author of the image; and
  - device producing the image.
25. The system for universal object tracking of claim 16 wherein the timer tracks year in the range of from 0000 to 9999.
26. The system for universal object tracking of claim 16 wherein the timer tracks all 12 months of the year.
27. The system for universal object tracking of claim 16 wherein the timer tracks time in at least hours and minutes.
28. The system for universal object tracking of claim 16 wherein the timer tracks time in fractions of a second.
29. The system for universal object tracking of claim 16 wherein the system is ISO 8601:1988 compliant.

30. The system for universal object tracking of claim 22 wherein the physical attributes comprise at least:

image category;

image size;

push status;

digital dynamic range;

image medium;

image resolution;

image stain; and

image format.

31. The system for universal object tracking of claim 20 wherein the lineage archive information comprises a parent number.

32. The system for universal object tracking of claim 31 wherein the parent number comprises at least:

a parent conception date; and

a parent conception time.

33. A method for universally tracking objects comprising:

inputting raw object data to an object forming apparatus; inputting object-related data; creating first archive data based upon the object-related data; and translating the first archive data into a form that can be attached to the raw object data.

34. The method for universally tracking objects of claim 33 wherein the raw object data is from a film based camera.
35. The method for universally tracking objects of claim 33 wherein the raw object data is from a digital camera.
36. The method for universally tracking objects of claim 33 wherein the raw object data is from a video camera.
37. The method for universally tracking objects of claim 33 wherein the raw object data is from a digital image processor.
38. The method for universally tracking objects of claim 33 wherein the raw object data is from a medical image sensor.
39. The method for universally tracking objects of claim 38 wherein the medical object sensor is a magnetic resonance imager.
40. The method for universally tracking objects of claim 38 wherein the raw object data is from an X-ray imager.
41. The method for universally tracking objects of claim 38 wherein the raw object data is from a CAT scan imager.
42. The method for universally tracking objects of claim 33 wherein the inputting of object related data occurs without user intervention.
43. The method for universally tracking objects of claim 33 wherein the inputting of object related data occurs via push button input.
44. The method for universally tracking objects of claim 33 wherein the inputting of object related data occurs via voice recognition equipment.

45. The method for universally tracking objects of claim 33 wherein the inputting of object related data occurs via a keyboard.
46. The method for universally tracking objects of claim 33 wherein the form of the translated archive data is an electronic file.
47. The method for universally tracking objects of claim 33 wherein the form of the translated data is a graphic code.
48. The method for universally tracking objects of claim 47 wherein the graphic code is one dimensional.
49. The method for universally tracking objects of claim 47 wherein the graphic code is two dimensional.
50. The method for universally tracking objects of claim 47 wherein the graphic code is three dimensional.
51. The method for universally tracking objects of claim 33 wherein the object data comprises image data and second archive data.
52. The method for universally tracking objects of claim 33 further comprising reading the second archive data; and creating lineage archive information relating to the object based upon the first archive information and second archive information.
53. The method for universally tracking objects of claim 33 wherein the inputting of object related data comprises configuration input processing for determining bounds for the archive data generation based upon configured input; determining the correct value of archive data representing the object forming apparatus and configuration input; and date/time stamping the object related data.

54. The method for universally tracking objects of claim 53 wherein date/time stamping is filtered according to configuration input rules.
55. The method for universally tracking objects of claim 33 wherein the configuration input comprises at least generation, sequence, data, unit, and constants information.
56. The method for universally tracking objects of claim 33 wherein the first archive data comprises location attributes of an object.
57. The method for universally tracking objects of claim 33 wherein the first archive data comprises physical attributes of an object.
58. The method for universally tracking objects of claim 56 wherein the location attributes comprise at least:
  - object generation depth;
  - serial sequence of lot within an archive;
  - serial sequence of unit within a lot;
  - date location of a lot within an archive;
  - date location of an object within an archive;
  - author of the object; and
  - device producing the object.
59. The method for universally tracking objects of claim 57 wherein the physical attributes of an object comprise at least:
  - object category;
  - image size;

push status;  
digital dynamic range;  
image medium;  
software set;  
image resolution;  
image stain; and  
image format.

60. The method for universally tracking objects of claim 52 wherein the lineage archive information comprises a parent number.
61. The method for universally tracking objects of claim 52 wherein the parent number comprises at least:  
a parent conception date; and  
a parent conception time.
62. The system for universal object tracking of claim 1 wherein the input means comprises a magnetic card reader.
63. The system for universal object tracking of claim 1 wherein the input means comprises a laser scanner.
64. The system for universal object tracking of claim 31 wherein the physical attributes further comprise;  
imageRes; and  
imageCus.

65. The method for universally tracking objects of claim 33 wherein the inputting object related data is via a magnetic card reader.
66. The method for universally tracking objects of claim 33 wherein the inputting of object related data is via a laser scanner.
67. The method of universally tracking objects of claim 33 wherein the inputting of object related data is via an optical reader.